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PENSOFT

Crossocheilus obscurus Tan & Kottelat, 2009 (Teleostei, Cyprinidae): distribution extension and first record for Musi basin, South Sumatra, Indonesia

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Abstract
Crossocheilus obscurus is a little known cyprinid fish which was first described in 2009 in the Batang Hari basin (West Sumatra province, Indonesia), with no additional published information since that time. In April 2016, *C. obscurus* was observed and photographed in the Musi basin (South Sumatra province). The identification of this species confirms its presence in a new river basin, more than 250 km south from its type locality.

Key words
Endemism; freshwater; cyprinid.

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Introduction

The freshwater fish fauna of the Sunda Shelf and its main islands (Sumatra, Java and Borneo) is highly diverse, especially in cyprinids (Darlington 1966, Kottelat 2013). The Cyprinidae is the largest family of freshwater fishes and is found throughout much of the world, with the exception of Madagascar, Australasia, and South America (Brumley 1991, Nelson 2006, Kottelat 2013). *Crossocheilus* is a cyprinid genus that is found throughout the Sundaic and Indochinese regions (Kottelat and Tan 2011, Kottelat 2013). Species of this genus inhabit a variety of habitats from large rivers to headwaters, but they are generally associated with substrate consisting of large stones or rocks, and fast-flowing water (Kottelat and Tan 2011). There are 12 species of *Crossocheilus* in Southeast Asia (Kottelat 2013). *Crossocheilus obscurus* is 1 of 4 species known to occur in Sumatra (Tan and Kottelat 2009, Kottelat 2013). It is presently known only from its type locality (Kiliran Jao in the Batang Hari basin, West Sumatra; Fig. 1) (Tan and Kottelat 2009). In this paper, we report the presence of *C. obscurus* in the Musi basin (South Sumatra province), which documents an extension of the known distribution range for this species.

Methods

Eight specimens of *Crossocheilus obscurus* were obtained from fishermen during fieldwork on 19–22 April 2016 in the Muara Kulam River (Lematang drainage, Musi

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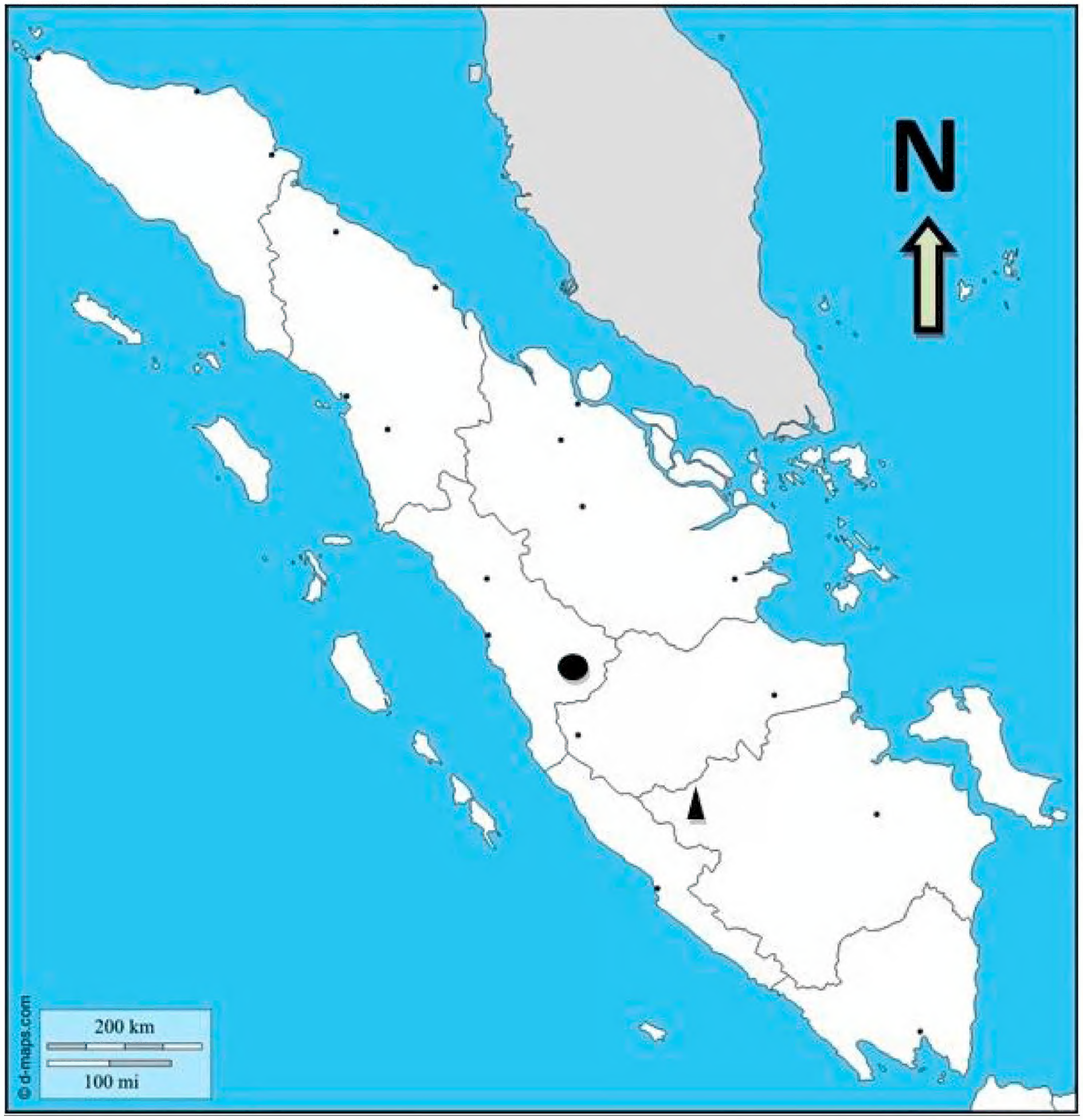

Figure 1. Known distribution of *Crossocheilus obscurus*. Black circle = type locality in the Batang Hari basin (West Sumatra); black triangle = additional locality at the Musi basin (South Sumatra).

basin, 02°48′10.6″ S, 102°21′11.2″ E). The fishes were documented and photographed, although the specimens were not retained, as we did not have the requisite permit for collecting specimens in the national park.

This river is surrounded by secondary dipterocarp forest. There is little encroachment, except for illegal low intensity selective-logging by local people (Fig. 2). The collection site is at around 500 m elevation, and the surrounding topography is hilly. This area is under management area of Subsection V or SPTN V (SPTN = Seksi Pengelolaan Taman Nasional Wilayah, or Regional Park Management Section) of Kerinci Seblat National Park (Anonymous 2016).

Figure 2. Muara Kulam River (Musi basin, South Sumatra), showing the location where *Crossocheilus obscurus* was collected. Photograph by M. Iqbal.

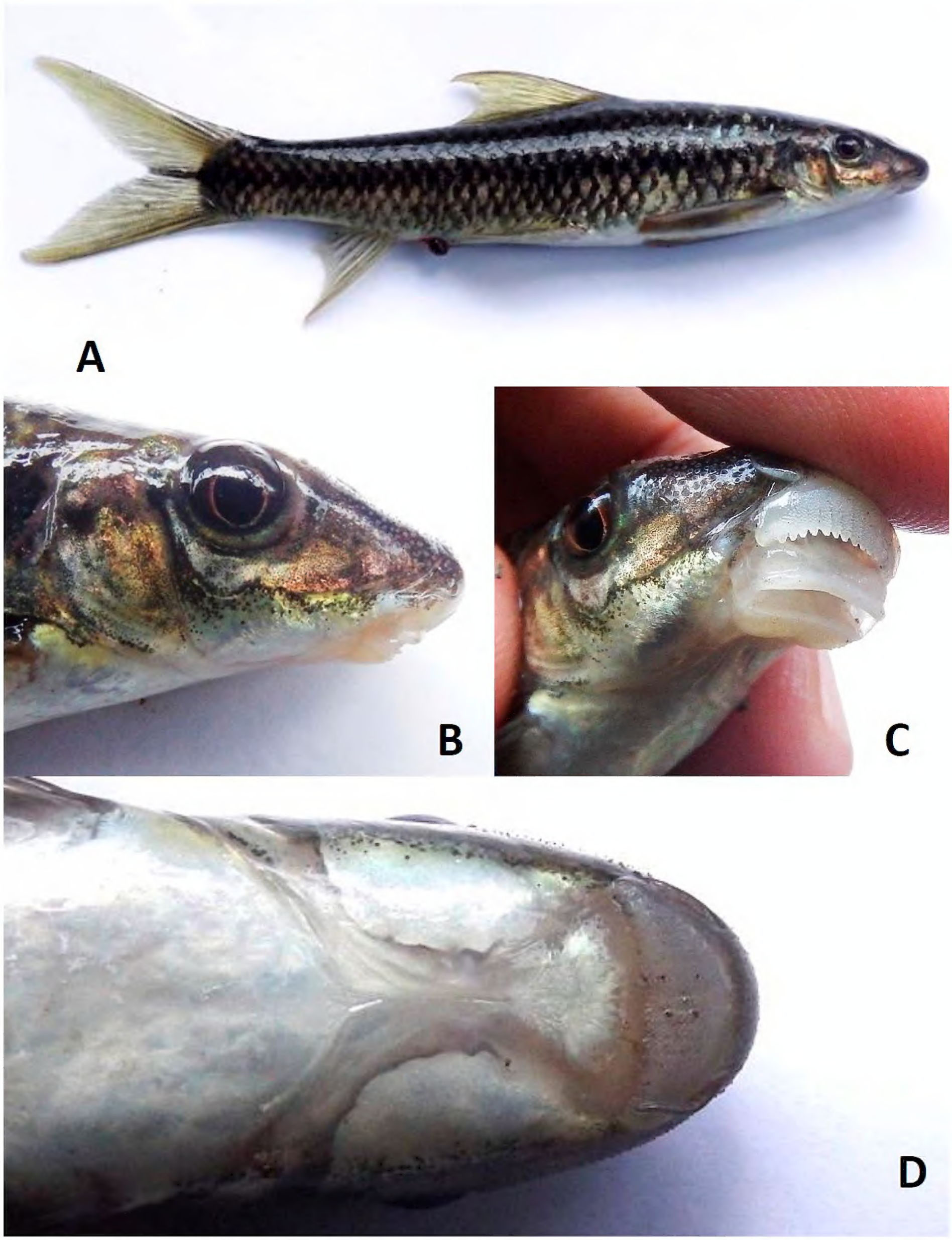

Figure 3. *Crossocheilus obscurus* (13 cm TL), Musi basin, Muara Kulam River, South Sumatra: **A.** lateral view. **B.** lateral view of head. **C.** detail of mouth showing upper lip with few fimbriaes. **D.** ventral view of head. Photographs by M. Iqbal.

Results

New records. Indonesia, Sumatra, Musi basin, Muara Kulam River, (02°48'10.6" S, 102°21'11.2" E), Muhammad Iqbal, Indra Yustian, Winda Indriati, Doni Setiawan, Arum Setiawan, 19 April 2016, photographed, 8 individuals.

Identification. Several specimens collected in the Muara Kulam River (Musi basin) were identified as *Crossocheilus obscurus* (Fig. 3), based on the diagnosis presented by Tan and Kottelat (2009). These features were: size up to at least 142 mm standard length; 1 pair of rostral barbels, no

maxillary barbels; midlateral stripe with edges not sharply contrasted, slightly curved downward, obscured in largest individuals (ca 100–140 mm), continued on median caudal-fin rays, reaching posterior margin; no black mark between anus and anal fin; mouth wide (30–36% of head length); pectoral fin rounded to slightly falcate, reaching halfway to pelvic-fin base; pelvic fin triangular to slightly falcate, and slightly beyond anus; axillary scale present; one pair of rostral barbels (length ca. ½ to ⅔ of eye diameter); upper lip with 14–18 fimbriae, entirely covered by small papillae; and anterior edge of lower lip with a few large papillae.

Discussion

The discovery of *Crossocheilus obscurus* in the Musi basin is the first record of this species beyond its type locality (Batang Hari basin), and represents a southerly extension of previously known distribution by more than 250 km (Fig. 1). This record is an important contribution to the understanding of island endemicity and the little-known biogeography of cyprinids in central and southern Sumatra. This species has not been assessed by IUCN Red List, but it would fit the status of Data Deficient (DD), due to the paucity of information on distribution, population, and potential threats.

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Authors' Contributions

MI, IY, and AS collected the data; MI wrote the text; WI and DS facilitated the fieldwork; and all authors revised, corrected, and discussed the manuscript.

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